

CLAIMS

1. A method of providing a user interface for a process plant, the method comprising the steps of:  
generating information for a plurality of content layers of a process graphic display of process plant elements of the process plant;  
determining a content layer of the plurality of content layers to display via the user interface; and,  
displaying via the user interface the determined content layer of the plurality of content layers.
2. The method of claim 1, wherein the generating step comprising processing runtime data received from the process plant in connection with the process plant elements.
3. The method of claim 2, wherein the determining step comprises selecting the determined content layer based on a user profile characteristic, wherein the user profile characteristic comprises an indication for operator access, and wherein the displaying step comprises rendering an operator content layer of the plurality of content layers based on the runtime data.

4. The method of claim 1, wherein the generating step comprises processing simulation data in connection with simulated operation of the process plant elements.

5. The method of claim 4, wherein the determining step comprises selecting the determined content layer based on a user profile characteristic, wherein the user profile characteristic comprises an indication for maintenance access, and wherein the displaying step comprises rendering a maintenance content layer of the plurality of content layers based on the simulation data.

6. The method of claim 4, further comprising introducing simulated disturbances into the simulated operation of the process plant elements.

7. The method of claim 6, wherein the determining step comprises selecting the determined content layer based on a user profile characteristic, wherein the user profile characteristic comprises an indication for training instructor access, and wherein the displaying step comprises rendering an instructor content layer of the plurality of content layers to support the introducing step.

8. The method of claim 1, wherein the determining step comprises selecting the content layer of the plurality of content layers in accordance with a user profile characteristic.

9. The method of claim 1, wherein the generating step comprises implementing object methods defined in a plurality of objects respectively modeling the process plant elements depicted in the process graphic display.

10. The method of claim 9, wherein each object of the plurality of objects further defines a graphical depiction of the process plant element for each content layer of the plurality of content layers.

11. A user interface system for a process plant having a process plant element, the system comprising:

a computer-readable medium;

a display device;

an object comprising information stored in the computer-readable medium regarding operation of the process plant element; and,

an execution engine to utilize the object information in a runtime environment to generate content for a plurality of content layers of a process graphic display;

wherein the display device depicts a specified content layer of the plurality of content layers.

12. The user interface system of claim 11, wherein the object information relates to receiving runtime from the process plant in connection with on-line operation of the process plant element.

13. The user interface system of claim 12, wherein the specified content layer is determined based on a user profile characteristic, and wherein the user profile characteristic comprises an indication for operator access such that the specified content layer is directed to a customized depiction of the runtime data in an operator content layer of the plurality of content layers.

14. The user interface system of claim 11, wherein the object information relates to generating simulation data in connection with simulated operation of the process plant element.

15. The user interface system of claim 14, wherein the specified content layer is determined based on a user profile characteristic, and wherein the user profile characteristic comprises an indication for maintenance access such that the specified content layer is directed to a customized depiction of the simulation data in a maintenance content layer of the plurality of content layers.

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16. The user interface system of claim 14, wherein the object comprises further information related to a simulated disturbance of the simulated operation of the process plant element.

17. The user interface system of claim 16, wherein the specified content layer is determined based on a user profile characteristic, and wherein the user profile characteristic comprises an indication for training instructor access such that the specified content layer is directed to a customized depiction of the simulation data arising from the simulated disturbance in an instructor content layer of the plurality of content layers.

18. A method of providing a user interface for a process plant, the method comprising the steps of:

generating content for a plurality of different types of users of the user interface by processing data regarding on-line and simulated operation of the process plant; and,

rendering a selected portion of the content in a customized depiction of the process plant by determining the selected portion of the content in accordance with a current user type of the plurality of different user types.

19. The method of claim 18, wherein the rendering step comprises determining whether the process plant is on-line to further determine the selected portion of the content for the customized depiction.

20. A method of configuring a user interface for a process plant, the method comprising the steps of:

creating a process graphic display of a plurality of graphic display elements representative of a plurality of process plant elements of the process plant, respectively;

configuring the plurality of graphic display elements by defining parameters related to on-line operation of the corresponding process plant elements and by defining simulation parameters to support simulated operation of the corresponding process plant elements; and,

establishing a plurality of content layers for selectively displaying information related to the on-line and simulated operation of the process plant elements via customized views of the process graphic display.

21. The method of claim 20, further comprising the step of storing a plurality of objects for the plurality of graphic display elements, respectively, wherein each object includes the parameters related to on-line operation and the simulation parameters.